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Notice of Allowability

Application No.

10/805,081

Examiner

James D. Stein

Applicant(s)

AVERETT ET AL.

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/30/04 amendment.
2. ☒ The allowed claim(s) is/are 1-21, 23-26 and 28-34.
3. ☒ The drawings filed on 19 March 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

John D. Lee
John D. Lee
Primary Examiner

DETAILED ACTION

Response to Amendment

This Office Action is in response to applicant's amendment filed 12/30/04. Applicant has amended claims 1 and 25 to recite the allowable subject matter of claims 22 and 27 as indicated in the previous office action. Thus, claims 22 and 27 were rendered superfluous and cancelled by applicant. Claims 28-34 were allowed in the previous office action. Therefore, claims 1-21, 23-26, and 28-34 are pending at issue.

Allowable Subject Matter

Claims 1-21, 23-26, and 28-34 are allowed.

The following is an examiner's statement of reasons for allowance: None of the cited prior art discloses or suggests identifying changes in the reactive coating as a result of the sensed evanescent fields influenced by the material, and comparing shifts in each long-period grating signature of a specific loss band so as to calculate different properties of said material. Furthermore, none of the cited prior art discloses or suggests a detector for detecting a coupling wavelength for a specific loss band, wherein the coupling wavelength is defined by the equation: $\lambda = (n_g - n_{cl})\Lambda$ wherein:

λ = coupling wavelength for a specific loss band

Λ = grating period

n_g = effective index of refraction of the guided mode of the optical fiber

n_{cl} = effective index of a cladding mode of the optical fiber;

a means for solving a series of equations that compare changes in the coupling wavelength for a specific loss band.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US Patent No. 6,542,688 to Gaylord et al, and US Patent No. 5,641,956 to Vengsarkar et al, which disclose related optical sensing devices with long period gratings. Also, "Composite Films for Modifying Evanescent Wave Characteristics in Long-Period Grating Biosensors," by Jennifer E. Martin, and "Applications of Long-Period Gratings to Single and Multiple-Parameter Sensing," by Bhatia disclose related optical sensing devices that employ long period gratings.

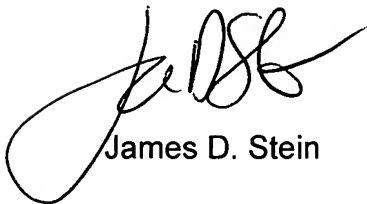
Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D. Stein whose telephone number is (571) 272-2132. The examiner can normally be reached on M-F (8:00am-4:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone

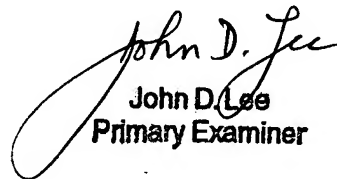
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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James D. Stein



John D. Lee
John D. Lee
Primary Examiner